

**Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554**

In the Matter of)	
)	MM Docket No. 00-39
Review of the Commission's)	
Rules and Policies Affecting the)	
Conversion to Digital Television)	

To: The Commission

MSTV/NAB/ALTV REPLY COMMENTS

The Association for Maximum Service Television, Inc. ("MSTV"), the National Association of Broadcasters ("NAB"), and the Association of Local Television Stations, Inc. ("ALTV") file these reply comments in response to comments on the Commission's Further Notice of Proposed Rulemaking ("*DTV FNPRM*")¹ in the above-captioned proceeding. MSTV, NAB, and ALTV believe that adopting a DTV tuner requirement is one of several actions that the Commission must take expeditiously in order to promote the DTV transition.² Without a DTV tuner requirement, it appears that manufacturers will not rapidly develop and market low-cost integrated DTV receivers, leading to a prolonged lag in DTV penetration rates. The comments filed in this proceeding predict varying impacts on consumers and the DTV transition from the adoption of a DTV tuner requirement. Some of the highest cost predictions seemingly ignore economies of scale and surely are overstated. Before the Commission reaches a final

¹ Report and Order and Further Notice of Proposed Rulemaking, *In re Review of the Commission's Rules and Policies Affecting the Conversion to Digital Television*, MM Docket No. 00-39, FCC 01-24 (rel. Jan. 19, 2001) ("*DTV FNPRM*").

² Commission action also is necessary in the areas of dual cable carriage during the transition, cable interoperability, and copy protection standards.

decision on how to structure a DTV tuner requirement, it should consider the results of the MSTV/NAB-commissioned DTV tuner implementation study, which should produce reliable data about the effects of various implementation plans on costs and consumer acceptance.

In this proceeding, commenters have submitted widely varying estimates about the costs to consumers of a DTV tuner requirement. The direst predictions come from the Consumer Electronics Association (“CEA”) and Thomson Multimedia, Inc. (“Thomson”), which claim that integrating DTV tuners would add from \$200 to \$300 to set costs, doubling or tripling the costs of the most popular sizes of television sets and pricing lower income consumers out of the market.³ Motorola, on the other hand, explains that while its DTV module, which allows manufacturers to convert existing analog television sets to include DTV reception, currently would be used in sets selling at a \$200 premium, “if DTV receivers and decoders were included in a large percentage of all TV sets, economies of scale could reduce the retail cost differential between NTSC sets and SDTV/EDTV sets to approximately \$50 by 2006.”⁴ Motorola further states that its consumer research shows that consumers planning to purchase a television in the next three years expect to pay an average of \$600 to \$800 and that consumers say they would pay an average premium of 22% for DTV.⁵ Paxson Communications argues that a blanket DTV tuner requirement for sets 13 inches and larger is necessary to create the economies of scale to lower DTV set prices to where they will be acceptable to consumers.⁶ Not surprisingly, absent

³ See Comments of the Consumer Electronics Association at 9 (“CEA Comments”); Comments of Thomson Multimedia, Inc. at 5 (“Thomson Comments”). Thomson claims that the increase would double or triple the costs of sets with screen sizes of 20 inches or less.

⁴ Comments of Motorola, Inc. at 4-5 & n.7 (“Motorola Comments”).

⁵ See *id.* at 5 n.6.

⁶ See Comments of Paxson Communications Corporation at 7 (“Paxson Comments”).

hard research, there is no consensus on the ultimate costs of a DTV tuner requirement or the extent of consumer acceptance of somewhat higher costs for sets capable of DTV reception.

Broadcasters, of course, would not advocate a requirement that would raise television set prices beyond consumers' means.⁷ The high costs that some predict certainly are exaggerated, however, and fail to account for the economies of scale that will drive prices down.⁸ In a DTV receiver, processing and decoding DTV signals are functions performed primarily in complex integrated circuits.⁹ For the past few decades, and for the foreseeable future, the relationship between circuit complexity and price of integrated circuit technologies empirically follows Moore's Law, which (in one form) states that an integrated circuit of a given complexity will halve its cost every 18 months. The impact of this continuing trend on digital devices for the consumer market is profound. In George Gilder's popular 1989 book *Microcosm*, which explores the world of integrated circuit development in great detail, the obvious implication of Moore's Law is simply stated: "In volume, anything on a chip is cheap."¹⁰ How cheap? Illustrative examples can be found in Gilder's more recent book *Telecosm*, where he notes: "In the era of the microcosm, transistors become asymptotically costless. On a computer memory

⁷ MSTV, NAB and ALTV agree with the Commission and other commenters that a DTV tuner requirement should take account of the impact on consumers. But incremental increases in set costs today are not the only consideration. Consumers who purchase analog-only sets during the transition will not be served when their sets become obsolete in the DTV-only world. The costs of replacing these sets will substantially outweigh any initial increases in set prices.

⁸ MSTV/NAB/ALTV Comments at 5.

⁹ While we refer generically to a DTV *tuner* requirement, the actual tuner portion of the DTV receiving system would likely be used for both NTSC and DTV signals. Thus, the tuner itself does not represent an additional cost item for DTV reception capability; the additional cost will be dominated by the integrated circuits associated with processing and decoding DTV signals.

¹⁰ George Gilder, *Microcosm: The Quantum Revolution in Economics and Technology* 396 (1989).

chip, the price of a transistor, with support circuits, dropped from \$7 to a few millionths of a cent. . . . Dropping at an average of 48% per year, a MIPS (millions of instructions per second) of computer power that cost several million dollars in 1960 sells for less than a dollar today.”¹¹ The lessons from these examples are clear. Whatever the cost of adding DTV signal processing and decoding to television receivers today, the general applicability of Moore’s Law, coupled with the economies of scale associated with volume mass production, as facilitated by a mandated DTV tuner requirement, will quickly drive incremental price increases for DTV capability down to *de minimis* levels.

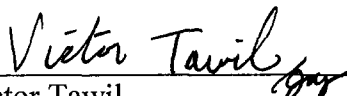
As described in the MSTV/NAB/ALTV Comments, MSTV and NAB have retained a consulting firm to conduct an eight-week study to determine the effects of various DTV tuner requirement implementation plans on television set costs and consumer adoption rates.¹² MSTV and NAB do not seek support for a predetermined conclusion; rather, the goal of the study is to develop unbiased, reliable data on which the Commission can base the selection and implementation of an appropriate DTV tuner requirement. Given the conflicting suppositions about the consequences of a DTV tuner requirement, MSTV, NAB, and ALTV believe that it is necessary for the Commission to have the results of the pending DTV tuner implementation study in order to make a fully informed decision about the approach it will take. There should be no question, however, that a DTV tuner requirement, in some form, is necessary to promote the transition.

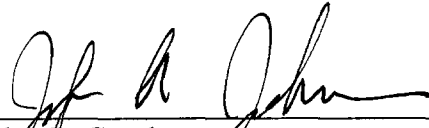
¹¹ George Gilder, *Telecosm: How Infinite Bandwidth will Revolutionize Our World* 7-8 (2000).

¹² See MSTV/NAB/ALTV Comments at 3-4.

Respectfully submitted,

ASSOCIATION FOR MAXIMUM
SERVICE TELEVISION, INC.

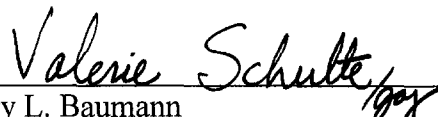

Victor Tawil
Senior Vice President
1776 Massachusetts Avenue, N.W.
Suite 310
Washington, D.C. 20036
Phone: (202) 861-0344
Fax: (202) 861-0342


Ellen P. Goodman
Jennifer A. Johnson
Russell D. Jessee
Covington & Burling
1201 Pennsylvania Avenue, N.W.
P.O. Box 7566
Washington, D.C. 20044-7566
Phone: (202) 662-6000
Fax: (202) 662-6291

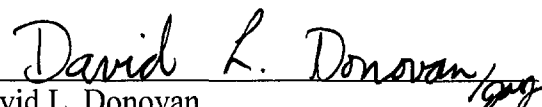
Its attorneys.

May 7, 2001

NATIONAL ASSOCIATION OF
BROADCASTERS


Henry L. Baumann
Jack N. Goodman
Valerie Schulte
National Association of Broadcasters
1771 N Street, N.W.
Washington, D.C. 20036
Phone: (202) 429-5458
Fax: (202) 429-3526

ASSOCIATION OF LOCAL TELEVISION
STATIONS, INC.


David L. Donovan
Vice President Legal and Legislative Affairs
1320 19th St., N.W.
Suite 300
Washington, D.C. 20036
Phone: (202) 887-1970
Fax: (202) 887-0950